## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

Claim 35 is being amended to correct a minor grammatical error. No new matter is being added.

Applicants wish to point out to the Examiner that the "Claims" with a "Mail Room Date" of January 25, 2005, on the Image File Wrapper of PAIR do not correspond to the present application. Instead, the claims correspond to a related application, application no. 09/874,389, as indicated at the top of the sheets listing the claims. Applicants respectfully request that the PTO's files be corrected to reflect the proper claims to avoid future confusion.

Claims 23-26 and 31-40 are pending.

### I. Information Disclosure Statement filed on October 15, 2002

The Examiner notes that the Information Disclosure Statement (IDS) filed on October 15, 2002, fails to comply with 37 C.F.R. § 1.98(a)(2), because it was not accompanied by a legible copy of each reference listed. Applicants submit with this paper a Supplemental IDS listing each reference on the IDS filed October 15, 2002, that was not initialed by the examiner. The Supplemental IDS is accompanied by a copy of each reference listed. Thus, Applicants request that each reference be considered by the Examiner and made of record.

## II. Claim Rejections – 35 U.S.C. § 112 – Enablement

Claims 23-26 and 31-40 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. "[t]he fact that not every gene that is targeted by this tet system will result in an animal with a phenotype, is the issue [that] needs to be addressed, in order for any animal to be encompassed by the claims." Office Action at 7. According to the Examiner, Applicants must enable the claimed transgenic animal with a phenotype, because phenotypes "are inherent to the transgenic animal and must be accounted for." Office Action at 6. If the claims do not require a phenotype, the Examiner argues that the claims would "raise issues of specific and substantial utility," because "nothing in the specification teaches a skilled artisan what to do with an animal that has changes in gene expression but has" no phenotype. Office Action at 7. Applicants respectfully traverse this ground of rejection.

As discussed below, the evidence and explanation of record establishes that one of ordinary skill in the art could practice the full scope of the claimed invention using only routine experimentation.

### *A Enablement does not require that the transgenic animal exhibit any particular phenotype*

While not acquiescing in the conclusion that transgenic animals exhibiting a phenotype lack enablement, enablement of the claimed invention does not require a skilled artisan to be able to make and use a transgenic animal exhibiting a phenotype. Instead, "[t]he invention that one skilled in the art must be enabled to make and use is that defined by the claims(s)...." MPEP § 2164 (emphasis added). The claims simply recite that "the transgene is expressed in cells of the animal at a level sufficient to produce amounts of the fusion protein that are sufficient to activate transcription of the *tet* operator-linked gene." Thus, the enablement of the claimed invention is properly assessed based on the claim language and not on features of transgenic

animals deemed "inherent" by the Examiner. Accordingly, enablement of the claimed invention does not require that the claimed transgenic animals exhibit a phenotype.

### *B. Transgenic animals lacking a phenotype possess utility*

Contrary to the Examiner's contentions, one of skill in the art would be able to make and use transgenic animals lacking a phenotype. For example, the specification teaches that the claimed invention can be used for the "[l]arge scale production of a protein of interest in animals, such as transgenic farm animals." Application at 41, lines 1-2. Such a protein of interest can be a therapeutic protein for example, designed to be expressed in the milk of the transgenic animal. *See* Application at 41, lines 14-21. Despite producing the protein of interest, the transgenic animal does not necessarily exhibit a "phenotype" associate with the protein of interest. Thus, one of skill in the art can make and use a transgenic animal that does not necessarily exhibit a phenotype.

### *C. The specification provides sufficient guidance to allow a skilled artisan to make the claimed "non-human transgenic animal" without undue experimentation*

The specification contains extensive guidance of how to prepare a transgenic animal comprising a transgene, as claimed. For example, the specification describes in detail how to make and use the tetracycline-controllable transcriptional activator and how to regulate transcription using the tetracycline-controllable transcriptional activator. *See e.g.*, Application at page 12, lines 25 – page 18, line 23. The specification also describes the construction and uses of transgenic animals. *See e.g.*, Application at page 18, line 24 – page 21, line 15.

These teachings are further validated by actual examples. Application at page 41, line 28 – page 51, line 31. These examples include the construction of transgenic mice with a luciferase reporter gene as the gene of interest. Application at page 49, line 8 – page 51, line 11. Figure 14 illustrates the luciferase activity in different tissues of the transgenic mice. Thus, the

specification contains extensive description of how to make and use the claimed invention and is supported by actual working examples.

For at least these reasons, a skilled artisan would be able to practice the claimed invention at the time of filing without undue experimentation. Accordingly, Applicants respectfully request reconsideration and withdrawal of this ground of rejection against claims 23-26 and 31-40 under 35 U.S.C. § 112, first paragraph.

## III. Claim Rejections – 35 U.S.C. § 112 – Written Description

Claims 23-26 and 31-40 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. According to the examiner, "[t]he primary issue is that not all genes will result in a phenotype and not all genes will predictably result in a phenotype...." Office Action at 9. The examiner argues that "[t]he skilled artisan cannot envision what genes will result in phenotypes in which animals and therefore conception is not achieved until reduction to practice has occurred...." Office Action at 10 (emphasis original). Thus, the examiner requires a description of "every gene under the tetO control and the subsequent phenotype that ensues when the gene under tetO control is expressed (or repressed)," to satisfy the written description requirement. Office Action at 9. Applicants respectfully traverse this ground of rejection.

### *A. The claimed invention does not require any phenotype*

The written description rejection is founded on the misapprehension that the claimed invention requires some phenotype. As discussed above in Section II(A), the claimed invention does not require any phenotype. Satisfaction of the written description requirement, like the enablement requirement, is founded on the claim language. *See* MPEP 2163 ("[A] patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention." (emphasis

added)). Thus, Applicants need not provide written description support for phenotypes of the claimed transgenic animals because phenotypes are not claimed.

### *B. Genes of interest that can be regulated in the claimed transgenic animal need not be specifically described to satisfy the written description requirement*

The claimed invention is directed to transgenic animals comprising a gene of interest under the control of the recited regulatory mechanism. The specific gene of interest selected is not important. Instead, it is the regulatory mechanism that is central to the claimed invention. The recited regulatory system allows the production of transgenic animals with a gene of interest that can be highly regulated.

Applicants do not need to list each and every gene of interest that could be used in the claimed invention to satisfy the written description requirement because genes of interest are well-known in the art. *See Amgen, Inc. v. Hoechst Marion Roussell, Inc.*, 314 F.3d, 1313, 1332 (Fed. Cir. 2003) (holding that members of a well-known genus need not be exhaustively listed to satisfy the written description requirement for claims reciting the genus). One of skill in the art would be able to readily select a gene of interest to use in the claimed invention based on the specific application. In addition, the specification lists numerous genes of interest that could be used. *See e.g.,* Application at page 32, line 38 – page 39, line 25; Application at page 34, line 32 – page 40, line 5. Thus, genes of interest were well-known in the art at the time of filing, and the specification lists a representative number of genes of interest.

For at least these reasons, a skilled artisan would understand Applicants to be in possession of the claimed invention at the time of filing. Accordingly, Applicants respectfully request reconsideration and withdrawal of this ground of rejection against claims 23-26 and 31-40 under 35 U.S.C. § 112, first paragraph.

## IV. Claim Rejections – Double Patenting

### *A. Obviousness-Type Double Patenting*

Claims 23-26 and 31-40 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-5, 9-11, 13, 15, 16, and 18-20 of U.S. Patent No. 5,859,310. Applicants will address this double patenting rejection by filing a terminal disclaimer when the claims become otherwise allowable.

### *B. Statutory Double Patenting*

Claims 23 and 26 stand provisionally rejected under 35 U.S.C. § 101 as allegedly claiming the same invention as that of claims 37 and 44 of co-pending Application No. 09/874,389. Applicants note the provisional nature of this rejection and will address the rejection if it matures into a non-provisional rejection.

## CONCLUSION

The present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers

submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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